

Title:	VCA Recording			
Date:	11/3/2014	Version:	1.0.0	Pages 18
Product:	4 Series and 2 Series IP Cameras			
Action Required:	Information only			

## OVERVIEW

HikVision **4 SERIES (DS-2CD4xxx)** cameras are called **SMART CAMERAS**. This is due to the built-in video analytics features, such as:

- Facial Detection (Please note: NOT Facial Recognition)
- People Counting
- Line Crossing
- Intrusion Detection

**2 SERIES (DS-2CD2xxx Value Series)** cameras also have video analytics capabilities with the latest firmware **v5.2.0** release. The value series cameras have only two (2) types of analytics:

- Line Crossing
- Intrusion Detection

The video analytics features are called **VCA** (Video Content Analytics).

**So far the only NVRs that have the capability to record VCA events are:**

- **DS-90xxHWI-ST** (960H Hybrid)
- **DS-90XXHFI-ST** (Real-Time Hybrid)
- **DS-96xxNI-ST** (NVR)
- **DS-7716NI-SP/16** (16 channel Plug-n-Play NVR)

The **VCA** events need to be configured from the camera's web interface directly. The NVRs do not have the capability to make **VCA** changes.

Title:	VCA Recording			
Date:	11/3/2014	Version:	1.0.0	Pages 18
Product:	4 Series and 2 Series IP Cameras			
Action Required:	Information only			

## CONFIGURING VCA RECORDING

To configure VCA recording:

1. Add the camera(s) to the NVR
2. Configure the VCA detection in the camera(s)
3. Configure VCA recording in the NVR

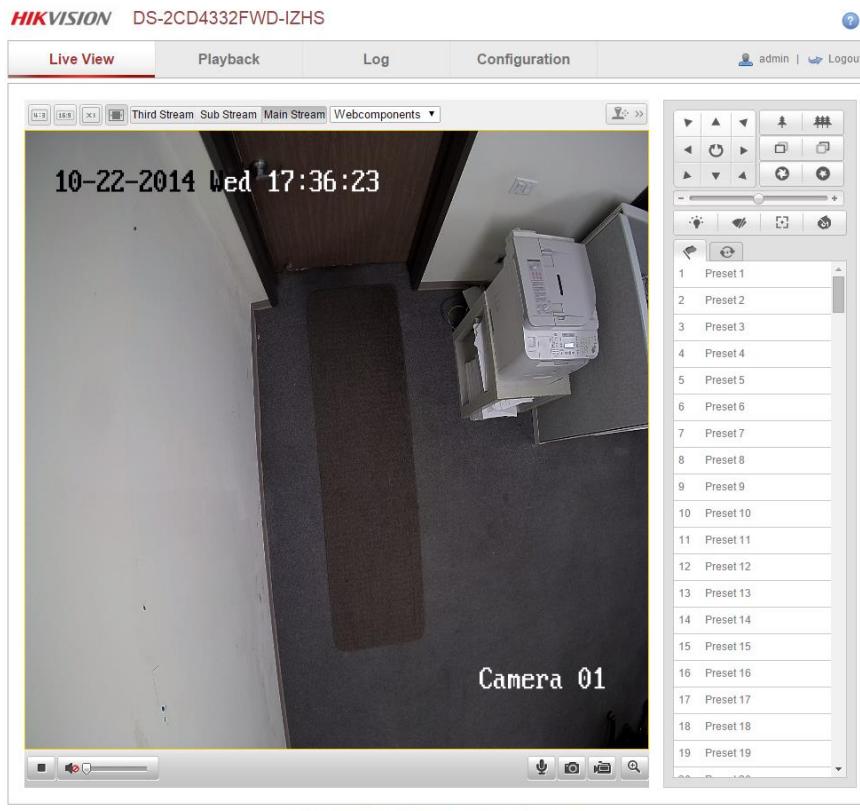
### **ADDING THE CAMERA(S) TO THE NVR:**

Please refer to the NVR's user manual or quick start guide to add the camera(s).

### **CONFIGURING THE VCA DETECTION IN THE CAMERA(S)**

VCA detection can be configured from the camera(s)'s web GUI only.

To configure the VCA detection, log in to the camera by typing the camera's IP address into a web browser (**Figure 1**).



**Figure 1**

- 2 -

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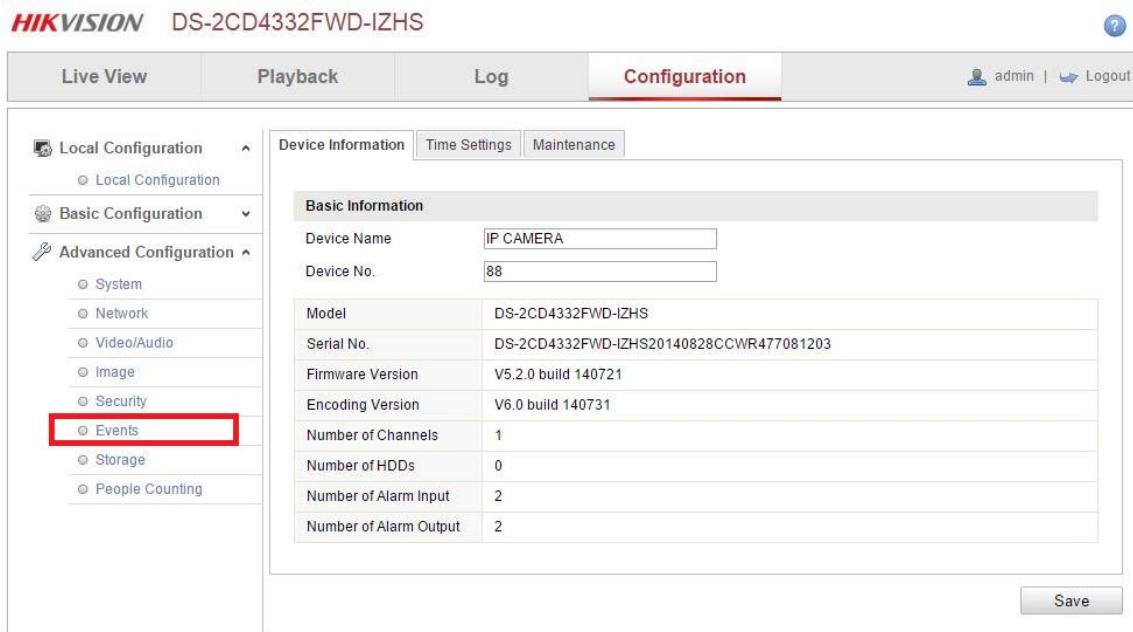
Title:	VCA Recording			
Date:	11/3/2014	Version:	1.0.0	Pages 18
Product:	4 Series and 2 Series IP Cameras			
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Proceed to “CONFIGURATION”→“ADVANCED CONFIGURATION” (Figure 2).

The screenshot shows the Hikvision DS-2CD4332FWD-IHHS configuration interface. The top navigation bar includes tabs for Live View, Playback, Log, Configuration (which is highlighted with a red box), and user authentication (admin | Logout). On the left, a sidebar menu lists Local Configuration, Basic Configuration (with sub-options System, Network, Video/Audio, Image, Security), and Advanced Configuration (with sub-options System, Network, Video/Audio, Image, Security, Events, Storage, People Counting). The main content area displays Device Information, Time Settings, and Maintenance tabs. Under Device Information, there is a 'Basic Information' section containing fields for Device Name (IP CAMERA), Device No. (88), Model (DS-2CD4332FWD-IHHS), Serial No. (DS-2CD4332FWD-IHHS20140828CCWR477081203), Firmware Version (V5.2.0 build 140721), Encoding Version (V6.0 build 140731), Number of Channels (1), Number of HDDs (0), Number of Alarm Input (2), and Number of Alarm Output (2). A 'Save' button is located at the bottom right of the main content area.

**Figure 2**

Go to “EVENTS” (Figure 3).

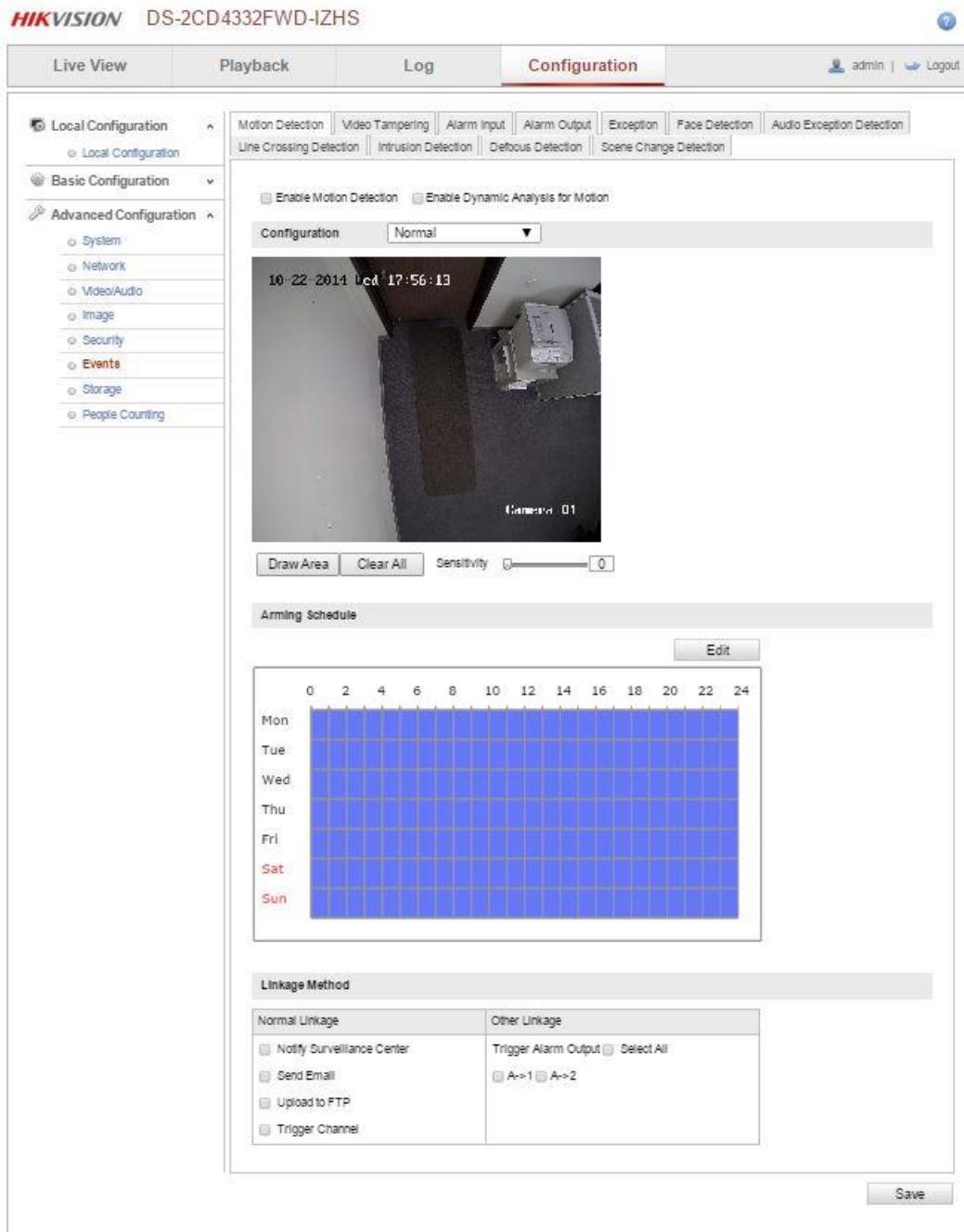


This screenshot is identical to Figure 2, showing the Hikvision DS-2CD4332FWD-IHHS configuration interface. The top navigation bar, sidebar menu, and main content area are all the same. The difference is in the Advanced Configuration dropdown menu on the left, where the 'Events' option is now selected (highlighted with a red box) instead of being highlighted in Figure 2.

**Figure 3**

Title:	VCA Recording			
Date:	11/3/2014	Version:	1.0.0	Pages 18
Product:	4 Series and 2 Series IP Cameras			
Action Required:	Information only			

**Figure 3** shows the layout of the “EVENTS” menu.



**Figure 3**

- 4 -

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Title:	VCA Recording			
Date:	11/3/2014	Version:	1.0.0	Pages 18
Product:	4 Series and 2 Series IP Cameras			
Action Required:	Information only			

### 1. Line Crossing Detection:

Line crossing detection is intended to filter unidirectional or bidirectional crossing of an imaginary line in order to narrow down search results (**Figure 4**).

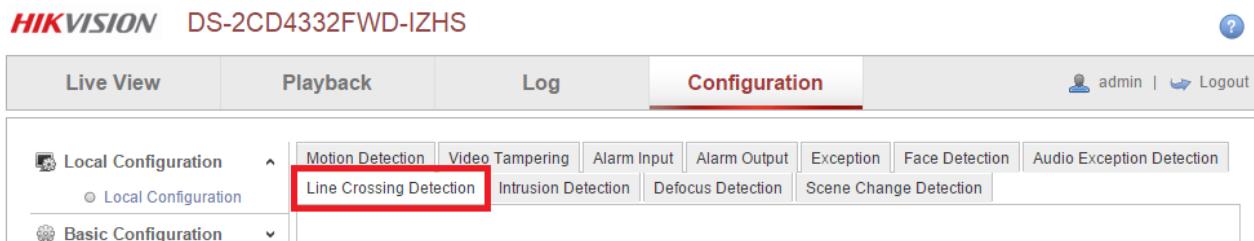


Figure 4

To set up “Line Crossing Detection” (**Figure 5**):

- Enable the **Line Crossing Detection** by checking the checkbox
- Click the “DRAW AREA” button to draw the line (to be crossed). Smart Series cameras can have up to 4 defined lines, the Value Series cameras- only 1 defined line.
- Set the direction of crossing. **A→B, B→A or A←→B**
- Set the sensitivity level (recommended 60-80).

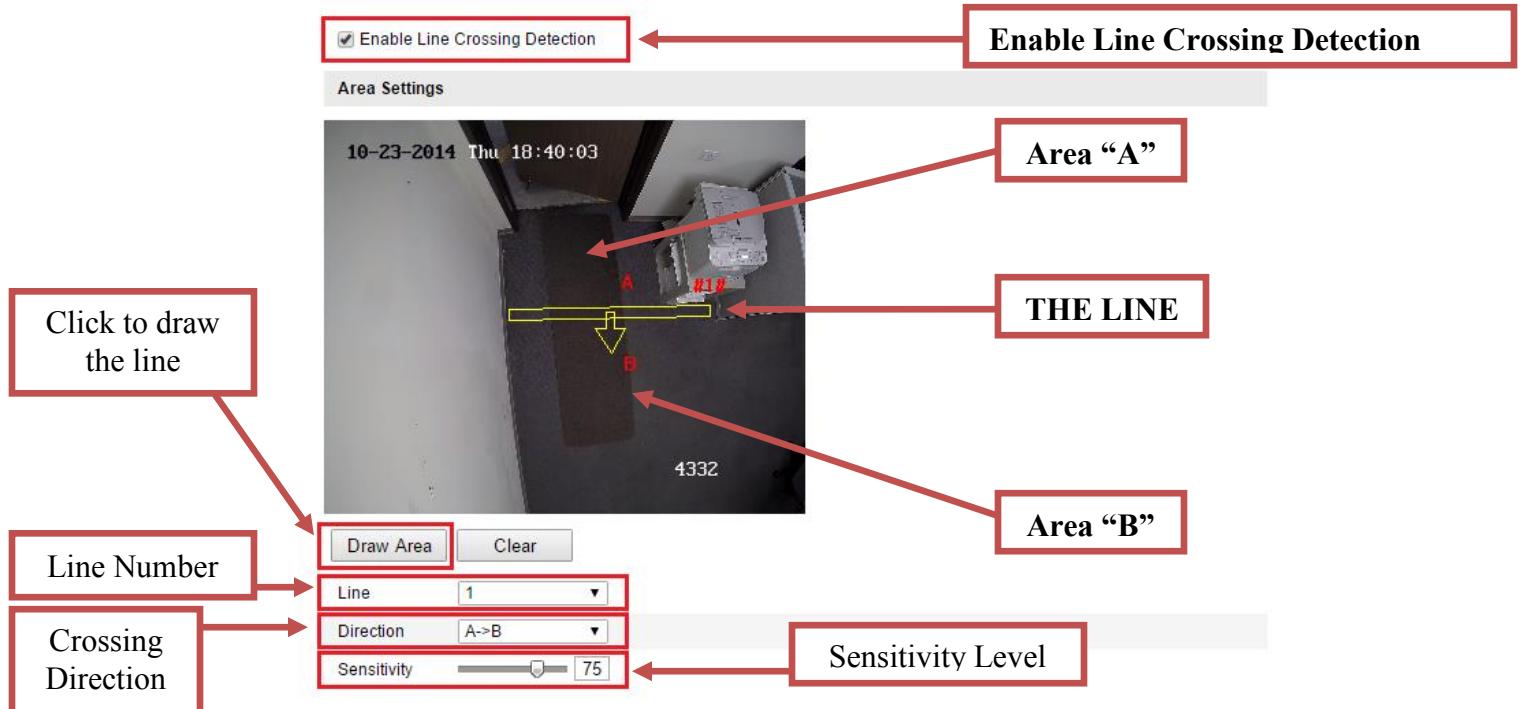


Figure 5 (Continues on the next page)

Title:	VCA Recording			
Date:	11/3/2014	Version:	1.0.0	Pages 18
Product:	4 Series and 2 Series IP Cameras			
Action Required:	Information only			

- e. Set the Arming Schedule
- f. If needed, select “Notify Surveillance Center”/“Send E-Mail”/“Upload to FTP”/“Trigger Channel” or Trigger an alarm output

The screenshot shows the 'Arming Schedule' and 'Linkage Method' configuration pages of the Hikvision VCA Recording software.

**Arming Schedule:** A grid where users can set detection schedules for each day of the week (Mon-Sun) from 0 to 24 hours. An 'Edit' button is located at the top right of the grid. A callout box points to it with the text "Click to edit the detection schedule".

**Linkage Method:** This section contains two tabs: 'Normal Linkage' and 'Other Linkage'. Under 'Normal Linkage', there are four checkboxes: 'Notify Surveillance Center', 'Send Email', 'Upload to FTP', and 'Trigger Channel'. Under 'Other Linkage', there are three checkboxes: 'Trigger Alarm Output', 'Select All', and 'A->1' and 'A->2'. A callout box points to the 'Trigger Alarm Output' checkbox with the text "Check to enable alarm output".

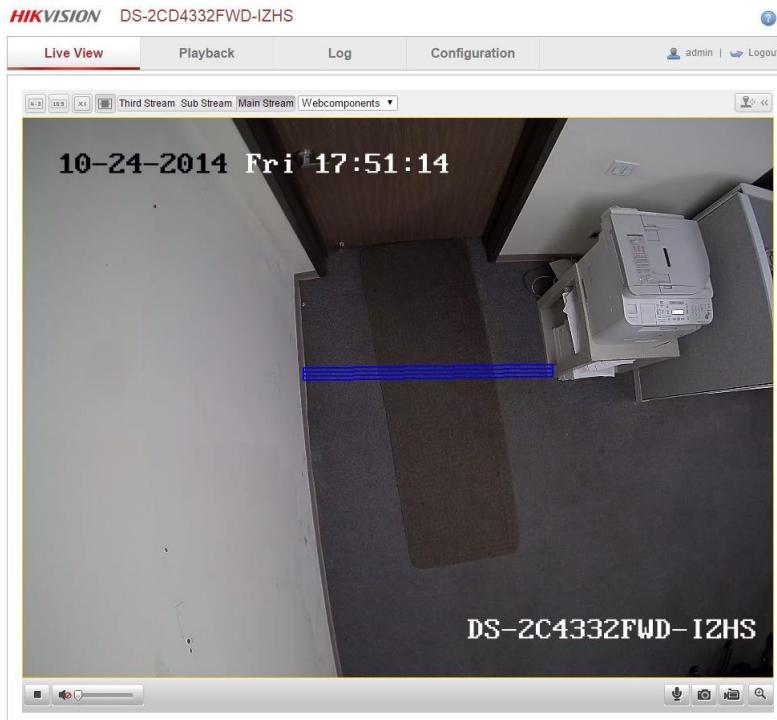
**Callout Boxes (Annotations):**

- Check to record onto the Micro SD card  
\*Not all models have a Micro SD slot  
\*Micro SD card is not included
- Check to upload still images to an FTP
- Check to send E-Mail notifications
- Check to upload still images to an FTP

A 'Save' button is located at the bottom right of the linkage method section.

**Figure 5**

Title:	VCA Recording			
Date:	11/3/2014	Version:	1.0.0	Pages 18
Product:	4 Series and 2 Series IP Cameras			
Action Required:	Information only			

**Figure 6**

Before  
crossing the  
line.

The line is  
**BLUE**

**Figure 7**

After crossing  
the line.

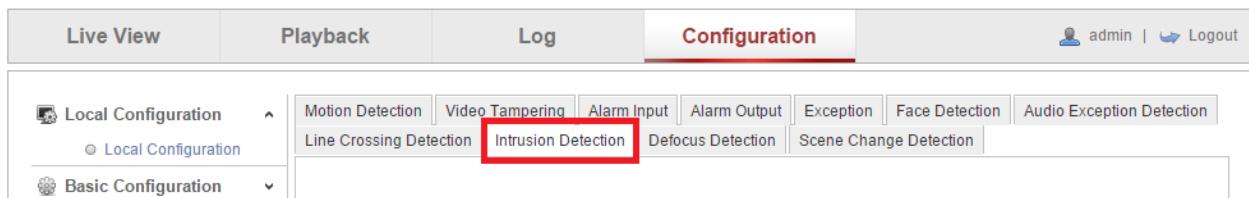
The line is  
**RED**

Title:	VCA Recording			
Date:	11/3/2014	Version:	1.0.0	Pages 18
Product:	4 Series and 2 Series IP Cameras			
Action Required:	Information only			

## 2. Intrusion Detection:

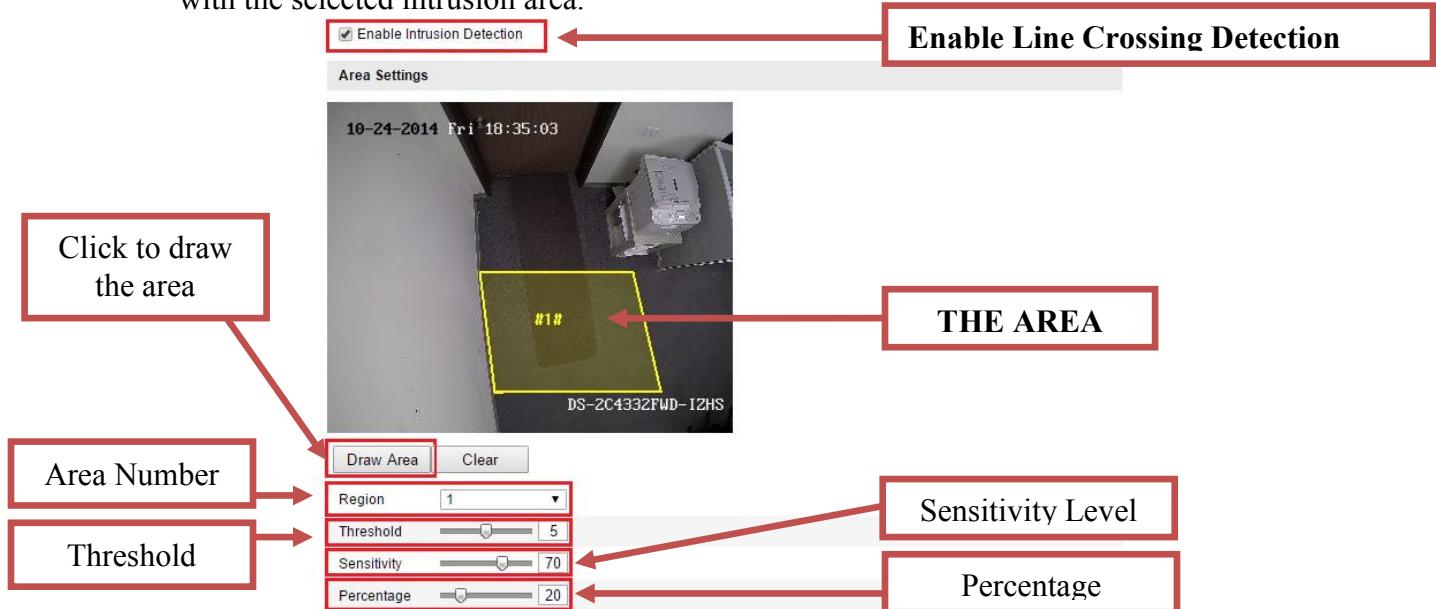
Intrusion detection is intended to filter object entry into an imaginary area and staying there for a predetermined period of time in order to narrow down search results (**Figure 6**).

**HIKVISION DS-2CD4332FWD-I2HS**



To set up “Intrusion Detection” (**Figure 8**):

- Enable the **Intrusion Detection** by checking the checkbox
- Click the “**DRAW AREA**” button to draw the area (to be intruded). Smart Series cameras can have up to 4 defined areas, the Value Series cameras- only 1 defined area.
- Draw the area by defining the vertices of a tetragon (square/rectangle....). After defining the 4<sup>th</sup> vertex- right-click to finalize the definition.
- Set the threshold (0-10 seconds). The threshold defines the amount of time required to distinguish intrusion from crossing
- Set the sensitivity level.
- Set the percentage (0-100%). Percentage defines the size of the object in comparison with the selected intrusion area.



**Figure 8 (Continues on the next page)**

-8-

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Title:	VCA Recording			
Date:	11/3/2014	Version:	1.0.0	Pages 18
Product:	4 Series and 2 Series IP Cameras			
Action Required:	Information only			

- g. Set the Arming Schedule
- h. If needed, select “Notify Surveillance Center”/“Send E-Mail”/“Upload to FTP”/“Trigger Channel” or Trigger an alarm output

The screenshot shows the Hikvision VCA Recording configuration interface. It includes two main sections: "Arming Schedule" and "Linkage Method".

**Arming Schedule:** A grid where users can set detection schedules for each day of the week (Mon-Sun) across 24-hour intervals. An "Edit" button is located at the top right of the grid. A callout box with an arrow points to the "Edit" button, labeled "Click to edit the detection schedule".

**Linkage Method:** This section contains two columns of checkboxes:

- Normal Linkage:** Contains checkboxes for "Notify Surveillance Center", "Send Email", "Upload to FTP", and "Trigger Channel". A callout box with an arrow points to these checkboxes, labeled "Check to enable alarm output".
- Other Linkage:** Contains checkboxes for "Trigger Alarm Output", "Select All", and "A->1" and "A->2".

Below the linkage method section are several descriptive callout boxes with arrows pointing to specific settings:

- "Check to record onto the Micro SD card  
\*Not all models have a Micro SD slot  
\*Micro SD card is not included" (points to the "Record onto Micro SD" checkbox in the "Normal Linkage" column).
- "Check to upload still images to an FTP" (points to the "Upload to FTP" checkbox in the "Normal Linkage" column).
- "Check to send E-Mail notifications" (points to the "Send Email" checkbox in the "Normal Linkage" column).
- "Check to upload still images to an FTP" (points to the "Trigger Channel" checkbox in the "Normal Linkage" column).

A "Save" button is located in the bottom right corner of the configuration area.

**Figure 8**

- 9 -

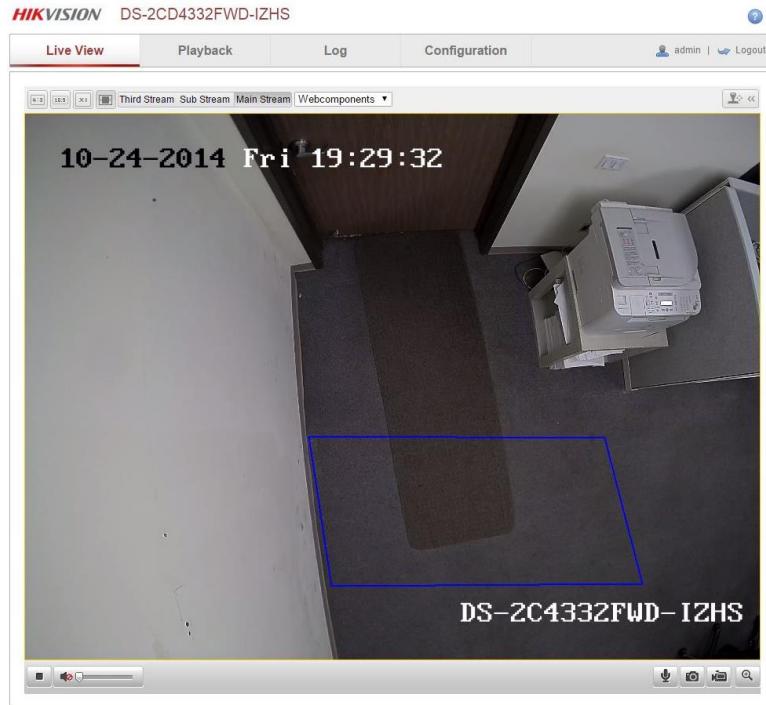
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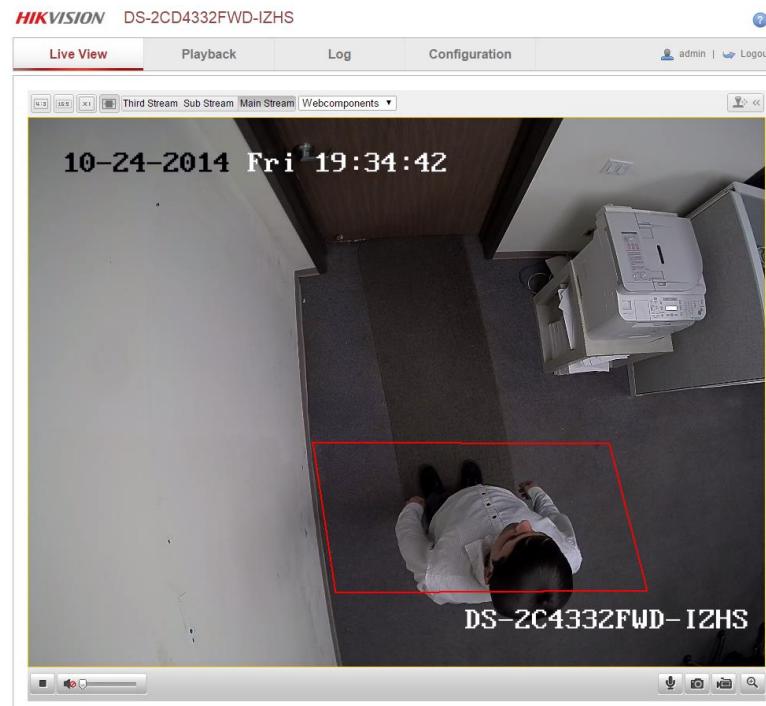
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Title:	VCA Recording			
Date:	11/3/2014	Version:	1.0.0	Pages 18
Product:	4 Series and 2 Series IP Cameras			
Action Required:	Information only			

**Figure 9**

Before intruding the area  
The area is **BLUE**

**Figure 10**

After intruding the area  
The area is **RED**

Title:	VCA Recording			
Date:	11/3/2014	Version:	1.0.0	Pages 18
Product:	4 Series and 2 Series IP Cameras			
Action Required:	Information only			

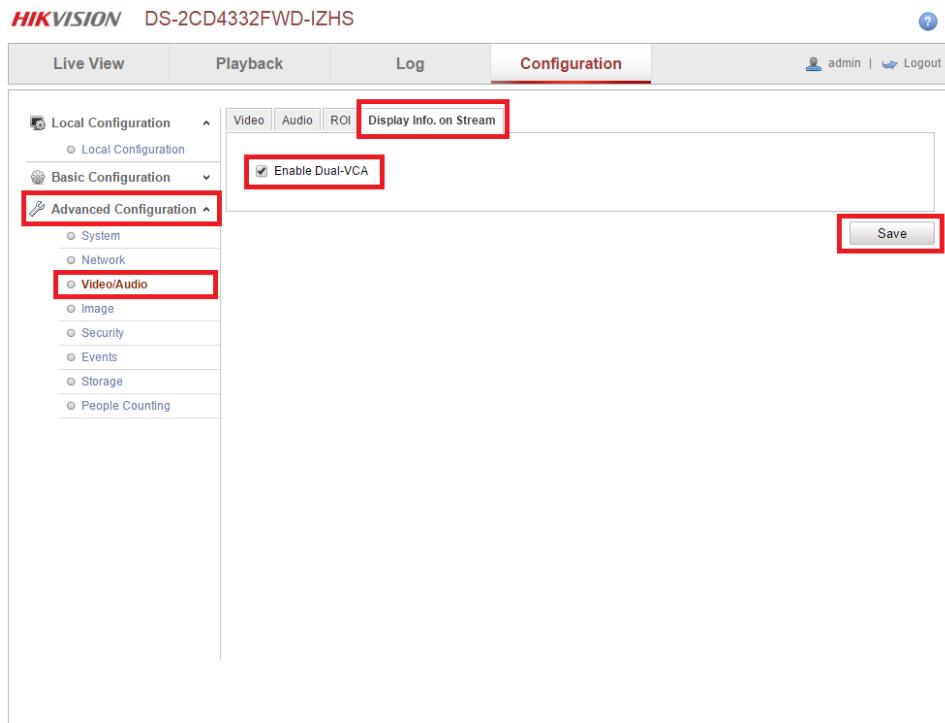
**CONFIGURING DUAL VCA:**

All the configurations mentioned above will be accessible directly from the camera(s) (if the camera(s) have a Micro SD slot and a Micro SD card has been installed. Micro SD cards are not included with cameras).

For the NVR to recognize these types of events, a feature called **DUAL VCA** has to be enabled in the camera(s).

To enable **DUAL VCA**:

- a. Go to Configuration.
- b. Go to **Advanced Configuration** → **Video/Audio**
- c. Go to the **Display Info. On Stream** tab
- d. Enable **DUAL VCA** (Figure )



**Figure 11**

Title:	VCA Recording			
Date:	11/3/2014	Version:	1.0.0	Pages 18
Product:	4 Series and 2 Series IP Cameras			
Action Required:	Information only			

## CONFIGURING VCA RECORDING IN THE NVR:

After setting up the VCA detection in the camera(s), it is time to set up the recording. Go to **MENU→RECORDING CONFIGURATION (Figure 15)**.

Click on **VCA (pink)** and change the recording schedule to **VCA (Figure 16)**.

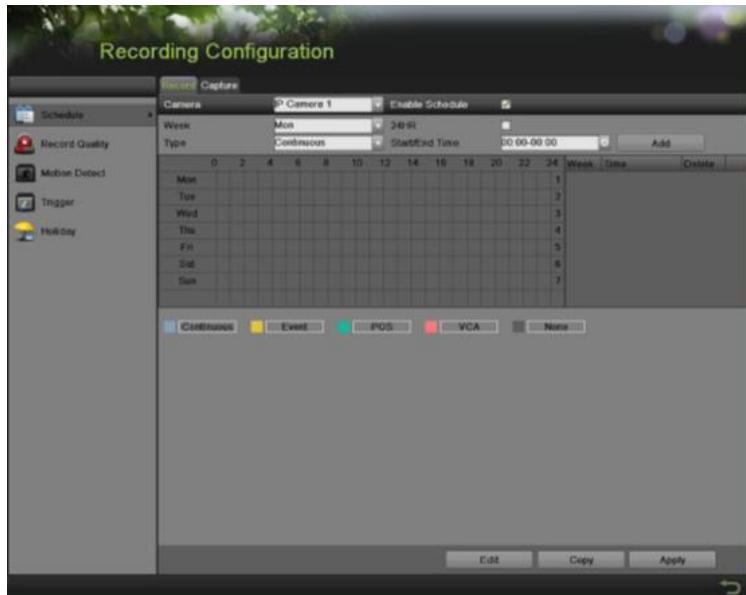


Figure 12

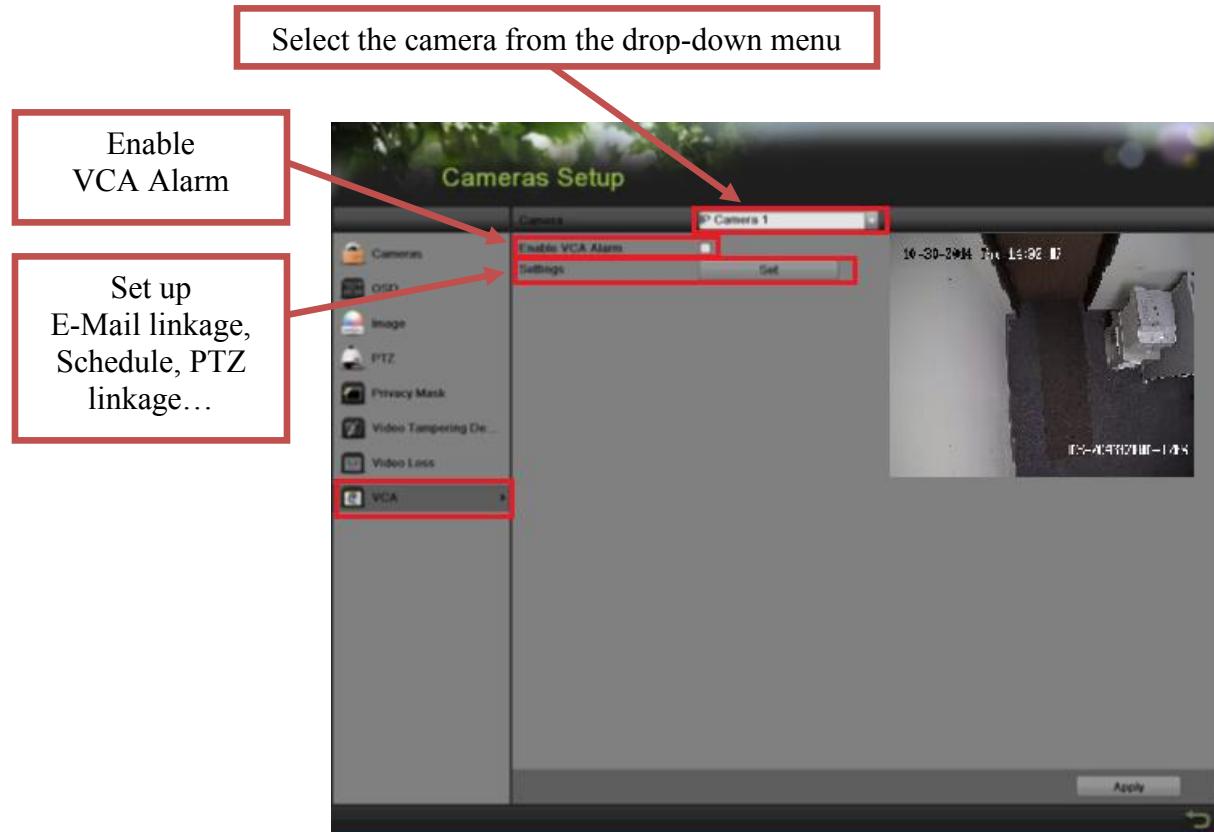


Figure 13

Please note, that if the recording schedule will be set to VCA, the NVR will only record VCA events and will ignore ordinary motion and alarm triggers. But because VCA is a type of an event and the recording schedule is set to **EVENT**, then the NVR will record ordinary events (motion and alarm) as well as VCA events.

After the Recording schedule is set, the VCA detection of the camera has to be enabled (just like motion detection). Go to **MENU→CAMERAS SETUP** then go to **VCA (Figure 17)**.

Title:	VCA Recording			
Date:	11/3/2014	Version:	1.0.0	Pages 18
Product:	4 Series and 2 Series IP Cameras			
Action Required:	Information only			

**Figure 14**

After the VCA has been enabled in the camera, the NVR will record upon VCA events.

Title:	VCA Recording			
Date:	11/3/2014	Version:	1.0.0	Pages 18
Product:	4 Series and 2 Series IP Cameras			
Action Required:	Information only			

## USING SMART PLAYBACK FEATURE

If the camera(s) with VCA features have been recording continuously or on an event schedule, the NVR provides a **SMART SEARCH** feature to locate the VCA events within the recording.

Go to **MENU→PLAYBACK** (Figure 18).

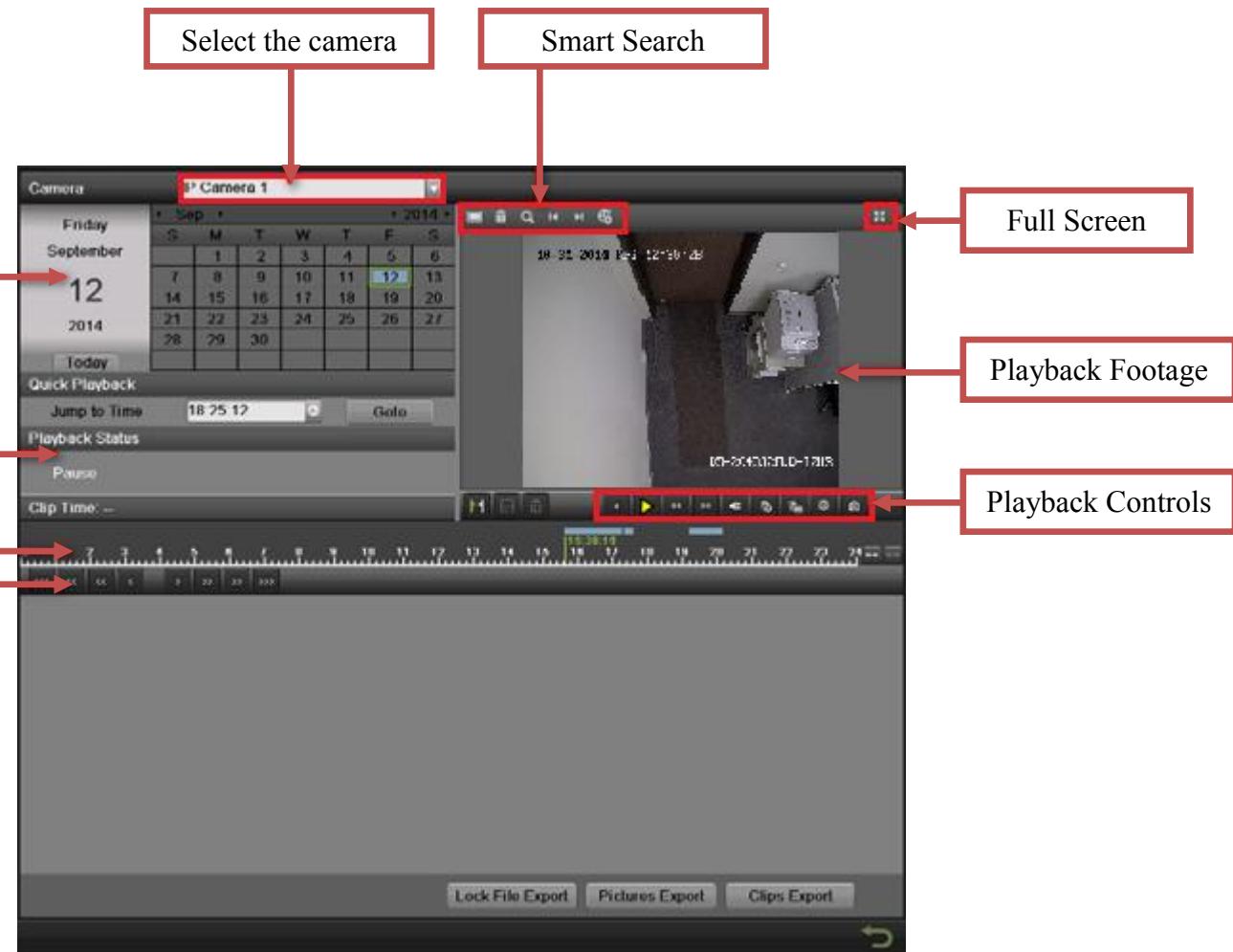
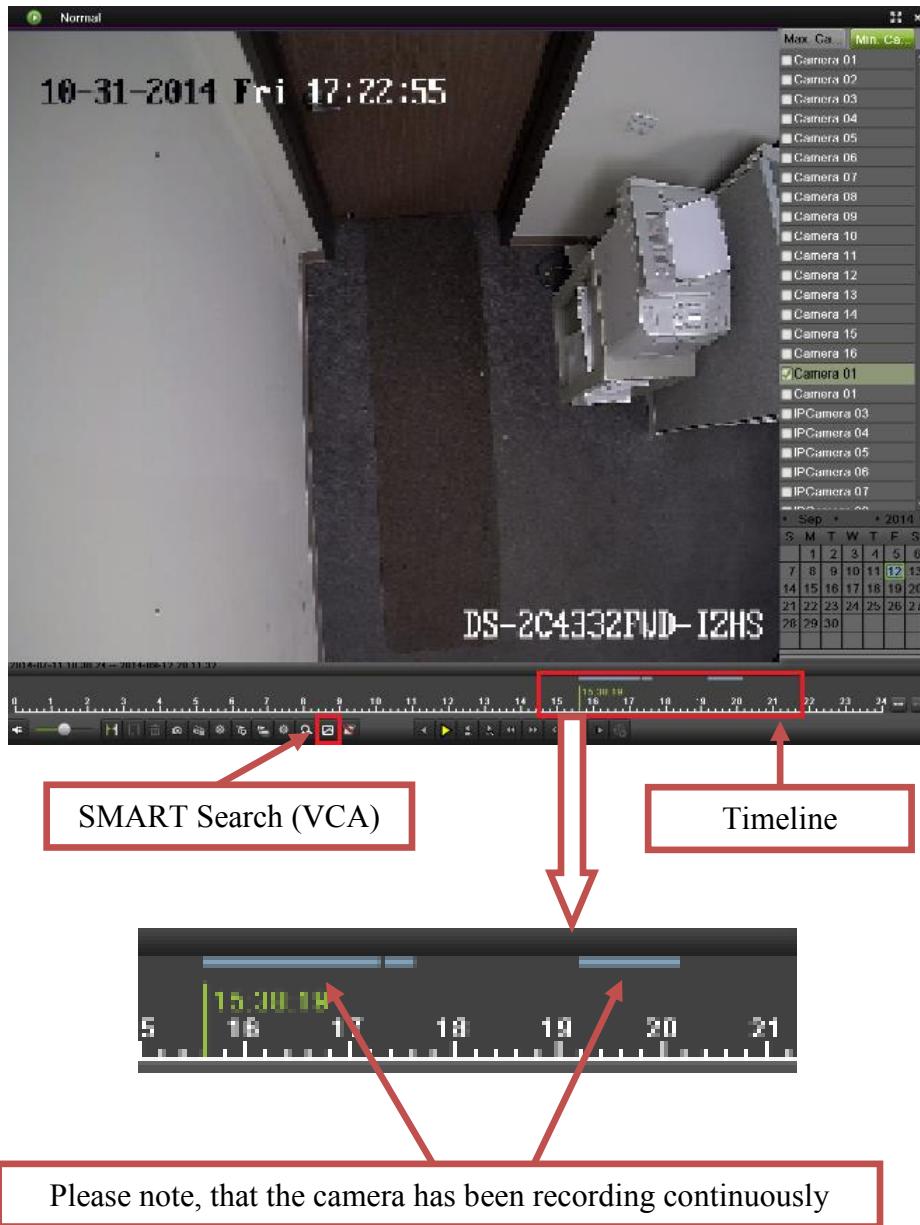


Figure 15

Title:	VCA Recording			
Date:	11/3/2014	Version:	1.0.0	Pages 18
Product:	4 Series and 2 Series IP Cameras			
Action Required:	Information only			

To find VCA recording in playback:

- Click on the **FULL SCREEN** icon.
- Click on **SMART SEARCH (Figure 19)**.



**Figure 16**

Title:	VCA Recording			
Date:	11/3/2014	Version:	1.0.0	Pages 18
Product:	4 Series and 2 Series IP Cameras			
Action Required:	Information only			

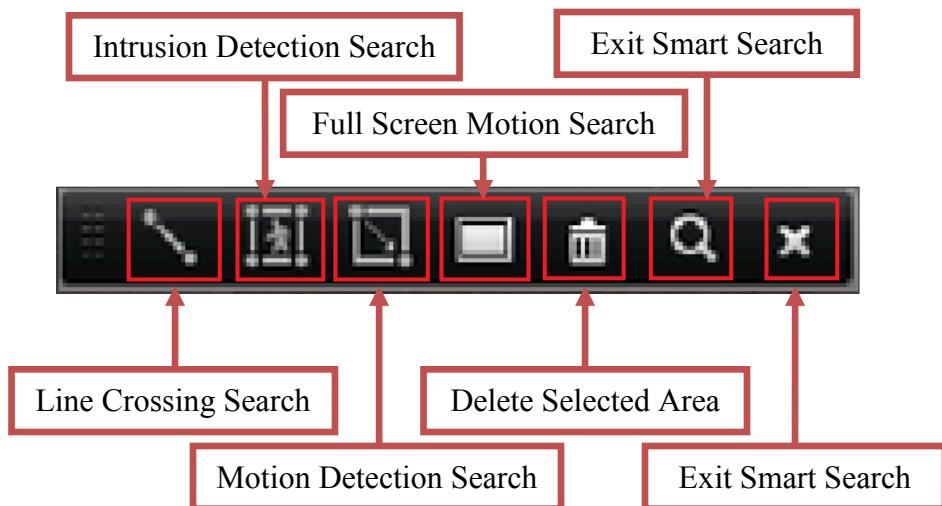
After pressing the **SMART SEARCH** button, the **SMART SEARCH OPTIONS** toolbar will appear (**Figure 19**).



**Figure 19**

SMART Search Options

**Figure 20** explains the icons in the Smart Search Options.



**Figure 17**

- 16 -

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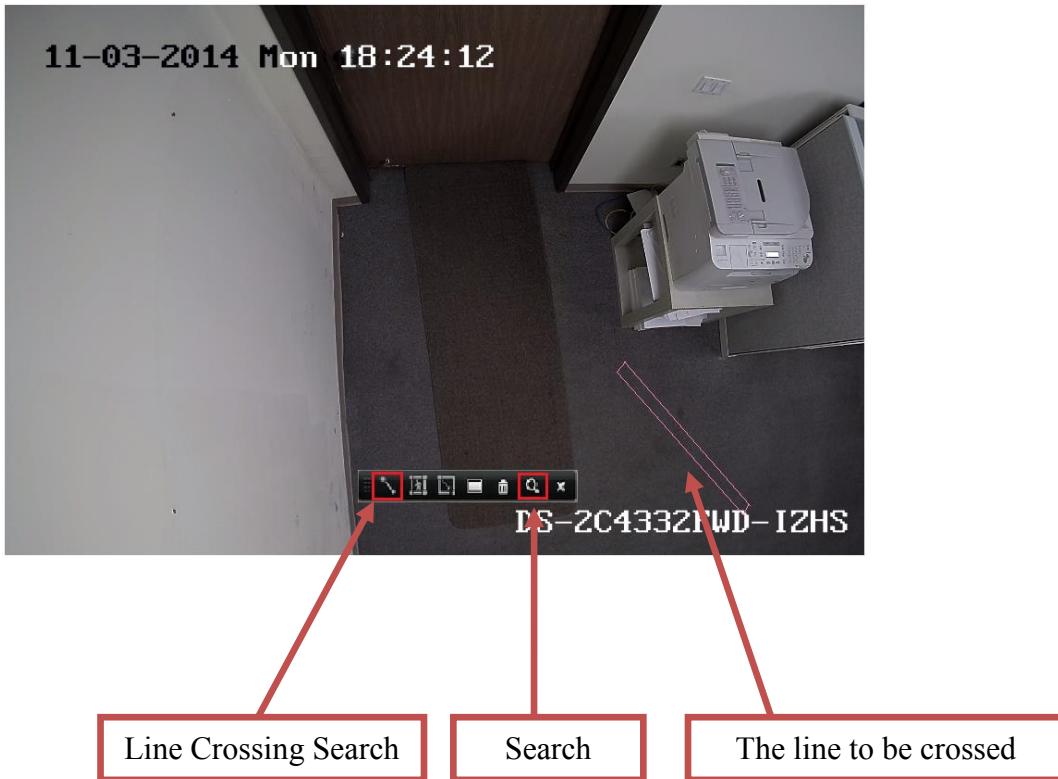
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Title:	VCA Recording			
Date:	11/3/2014	Version:	1.0.0	Pages 18
Product:	4 Series and 2 Series IP Cameras			
Action Required:	Information only			

To initiate a Line Crossing search:

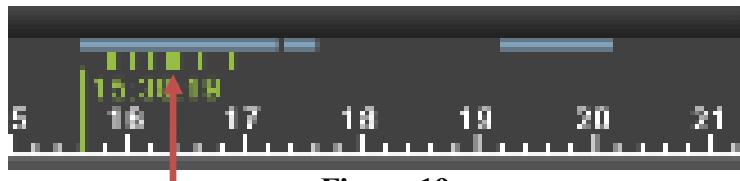
- a. Click the line crossing search button
- b. Draw a line anywhere on the screen (please note that the line will look like a thin rectangle)
- c. Press Search

Please see **Figure 18**.



**Figure 18**

After searching, the timeline will look like the example in **Figure 19**.



**Figure 19**

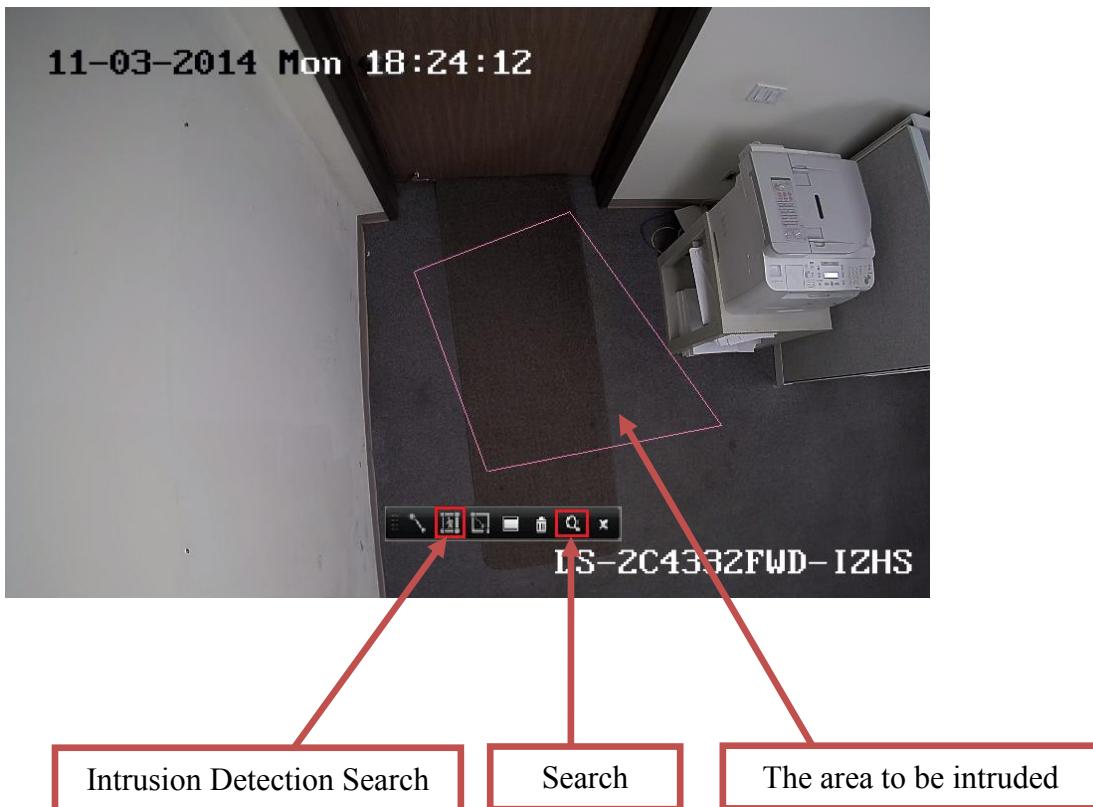
The choppy green lines indicate when line crossing has occurred

Title:	VCA Recording			
Date:	11/3/2014	Version:	1.0.0	Pages 18
Product:	4 Series and 2 Series IP Cameras			
Action Required:	Information only			

To initiate a Line Crossing search:

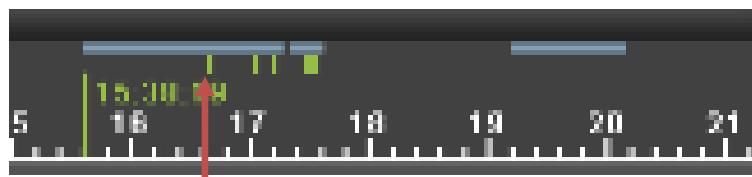
- Click the line crossing search button
- Draw a line anywhere on the screen (please note that the line will look like a thin rectangle)

Please see **Figure 18**.



**Figure 20**

After searching, the timeline will look like the example in **Figure 21**



**Figure 21**

The choppy green lines indicate when intrusion has occurred